

Appendix

DBCCEM-TD3 is an improvement of CEM-TD3. The hyperparameter settings that are the same as CEM-TD3 are the same, as shown in Table 3. For DBCCEM-TD3, the hyperparameter α is 0.95 for Ant-v2, 0.8 for Swimmer-v2, and 0.7 for HalfCheetah-v2.

Hyperparameter	CEM-TD3
τ_{CEM}	0.95
σ_{init}	1e-3
σ_{end}	1e-5
pop_size	10
γ	0.99
lr_{actor}	0.001
lr_{critic}	0.001
$batch_size$	100
pop_size	10
K	10
N	3
τ	0.005

Table 3: The hyperparameters of DBCCEM-TD3.